Velocity

Velocity	How fast and in what direction an object is going.
Formula (average velocity)	change in position/ time

Practice test things to remember

t=	d/v
when force isnt	

Unit 3 vocab

Drag Force	force esherted on an object in opposition as object moves through fluid (including air)
As velocity increases, drag force	increases
Terminal Velocity	When drag force = force of gravity
Interaction pair	two forces in opposite direction have = magnitude
Tension	Force exherted by a string or rope
Normal force	Force surface exherts to keep objects from passing through
Resultant	Sum of adding vectors

Definitions

Inertia	tendancy of an object to resist change
Equilibrium	when net force is zero

Force

Definition	A push or pull exherted on an object
Equation	F=ma
One unit	kgm/s^2
Net Force	vector sum of all forces on an object
Fappearant	= ma+Fg

Acceleration

Acceleration	The rate at which velocity changes
Formula for acceleration	Change in velocity/ time
Formula for change in velocity	V2-V1
Speeding Up	When velocity and acceleration are in same direction
Slowing down	When velocity and acceleration are in opposite directions
Accelerating at a constant speed	A car can be accelerating at a constant speed around a corner

Unit 1 Vocab

Physics	A branch of science involving the physical world: energy, matter and how they relate
Hypothesis	An educated guess
Model	Representation of a natural phenomena
Scientific Law	A rule of nature
Scientific Theory	A well supported and test explanation of a natural phenomea
Precision	The smallest division marked on an instrument
Uncertainty	One half the smallest division marked on an instrument

Diagrams of Motion

Motion Diagram	Shows subject at equal time intervals along path of motion
Particle Diagram	Subject is represented by particles at equal time intervals (simplified)

Types of Motion

Linear	Straight Line
Circular	Circle
Projectile	arch

Sig Fig Calculations

Multiplication/-Division	Answer has same number of sig figs as least number in problem
Addition/Subtraction	Answer is a precise as least precise number in the problem

Sig Figs

Definition	The valid digits in a number
Sig figs	All nonzeros
Sig figs	All sandwiched zeros
Sig figs	All following zeros after a decimal

Measurements

Vectors	Numbers with magnitude and direction
Vector quantities	Velocity, acceleration, force, momentum, displacement
Scalar	Numbers without direction
Scalar quantities	speed, distance, temperature, mass

Graphing Motion

Position Time Graph	Shows how position of an object varies with time.
Slope of Position Time	Shows velocity
Velocity Time graph	Shows how velocity varies with time
Area under curve	Shows distance

Speed

Speed	How fast an object is going
Average speed	d/t
Instaneous speed	the speed at a specific instant in time
-Speedometer	speed during 1 tire revolution
-Radar gun	speed while a car travels 1 inch
Scalar	Only has number value

Displacement

Displacement	Difference in position
Formula	change in x= x2-x1

Graphing Relationships

Linear	Straight line, y=mx+b
Quadratic	Palarbora, one variable depends on square of another, y=ax^2+bx+c backwards C
Inverse	Hyperbola, y=a/x, one variable depends on inverse of another, fowards C
Radical	y=a radical x upside down u that doesn't connect

Percent error

Formula	experimental - actual /actual x100

Force

System	object the force is exherted on
External world	everything around the object that exherts force on the object
Contact force	Exherts a force on system by touching the object
Field forces	exherts a force on the system without touching the object
Free body diagram	physical model that represents the forces acting on a system
Resultant force	Single force with same effect as 2 individual forces added together

Newton's Laws

1st	object at rest will stay at rest and in motion will stay in motion unless acted on by a net force
2nd	Acceleration of an object is sum of forces acting on it divided by the mass of the object
3rd	Forces come in pairs

Scientific Notation	
Moving decimal left	Positive exponent
Moving decimal right	Negative exponent
Uncertainty	The exponent of 10 minus number of following zeros in the problem

Solving vectors	
Adding methods	Tail to tip or parell-elogram
If right triangle	pythagoreom theorum
If vectors make right angle, angle of resultant is	inverse tangent B/A

Friction	
Kinetic friction	Acts on moving objects
Static friction	Acts on stationary objects

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